University of the West of England
BRISTOL

MODULE SPECIFICATION

Part 1: Information			
Module Title	Tissue and Tumour Science		
Module Code	USSJXT-15-2	Level	2
For implementation from	September 2020		
UWE Credit Rating	15	ECTS Credit Rating	7.5
Faculty	Health and Applied Sciences	Field	Applied Science
Department	Applied Sciences		
Contributes towards	This module is optional on all variants of the following programmes: BSc (Hons) Biomedical Science		
Module type:	Standard		
Pre-requisites	Infection and Disease (USSKA7-30-1)		
Excluded Combinations	None		
Co- requisites	None		
Module Entry requirements	N/A		

Part 2: Description

This module focusses on aspects of the Cellular Pathology discipline, incorporating aspects of cancer cell biology. This follows on from the short introduction given to Cell Path and cancer at level 1, complements other modules at level 2 (without duplication), and will better prepare students to cover these topics at level 3 (without being a pre-requisite).
This module may be considered in 3 discrete sections – briefly:

1.) Technical aspects of Cellular Pathology.
2.) Cancer Biology
3.) Cancer Case Studies

1.) Technical aspects of Cellular Pathology.

This element of the module will cover the preparative processes used in Cellular Pathology for sample analysis. This will include the theory of stain action and its application, immunocytochemistry and the molecular techniques used. The use of these methods will be applied to disease diagnosis.

2.) Cancer Biology.

From basic biology to clinical application. This section will introduce some of the key concepts of the diagnosis and prognosis of neoplasia before exploring the multi-faceted “hallmarks of cancer” model. Each of these key features of malignant disease will be outlined and linked together to give a cohesive overview of cancer cell biology and treatment.

2.) **Cancer Case Studies.**
These sessions will introduce students to the four most common cancers diagnosed in the UK. The epidemiology, aetiology, pathophysiology, genetics, variants and current treatment will be described for Breast, lung, prostate and colorectal cancer.

Scheduled Learning: The Module delivery will include 39 hours of contact time, split between lectures, tutorials and practical classes.

The majority of the taught material will be delivered as lectures. Practical classes will be used to give hands-on experience of preparing tissue samples and diagnostic analysis, whilst supporting concepts covered in lectures. Tutorials will be used to allow analysis and discussion of the laboratory results generated.

Independent Learning: In addition, students are expected to prepare for tutorial sessions by carrying out designated reading tasks. Furthermore, they are expected to undertake further independent reading – with guidance given during lectures. This reading is designed to support student learning both for the completion of coursework, but also in preparation for the final exam, to ensure both the breadth and depth of their knowledge.

Part 3: Assessment

Component A: will consist of a 1.5 hour examination comprising of short essay type questions. A choice of 3 out 6 six questions will allow students to demonstrate both the breadth and depth of their knowledge of the subject area.

Component B: The coursework element of the module 1500 word critical review of a research article documenting a recent advance in the field of cancer research, chosen from a selection provided by the module team.

Component A assesses breadth and depth of knowledge and understanding of the fundamental concepts underlying cellular pathology approaches to the study of tissues, and also the essentials of cancer cell biology.

Component B tests the application of knowledge, critical evaluation and the ability to research and review relevant literature. It requires the student to consider scientific principles in the applied clinical context.

This provides opportunity for summative assessment of the coursework to become formative (through feedback), feeding forward to preparation for the exam.

Identify final timetabled piece of assessment (component and element)	Component A

% weighting between components A and B (Standard modules only)	**A:** **50**	**B**: **50**

First Sit	
Component A (controlled conditions) **Description of each element**	**Element weighting**
1. Written Exam (1.5 hours), Assessment Period 1	100
Component B **Description of each element**	**Element weighting**
1. Written critique of research paper (1500 words)	100
Resit (further attendance at taught classes is not required)	
Component A (controlled conditions) **Description of each element**	**Element weighting**

1. Written Exam (2 hours), Assessment Period 3	100
Component B **Description of each element**	**Element weighting**
1. Extended essay (1500 words)	100

Part 4: Teaching and Learning Methods

Learning Outcomes

On successful completion of this module students will be able to:

- Employ good laboratory practice related to Cellular Pathology techniques
- Understand the principles of tissue preparation for histology and the mechanism by which common staining methods work
- Show an appreciation of diagnostic and prognostic procedures in neoplastic disease.
- Show an appreciation of the key properties of malignant cells as described by the "Hallmarks of cancer" model and the basic cell biology underpinning each.
- Appreciate the complexities of cancer research through engagement with recent literature.

Key Information Sets Information (KIS)

Contact Hours

Hours to be allocated	Scheduled learning and teaching study hours	Independent study hours	Placement study hours	Allocated Hours
150	36	114	0	150

Total Assessment

The table below indicates as a percentage the total assessment of the module which constitutes a;

Written Exam: Unseen written exam
Coursework: Written assignment

Total assessment of the module:	
Written exam assessment percentage	50%
Coursework assessment percentage	50%
Practical exam assessment percentage	0%
	100%

Reading List

You will be expected to use your lecture notes and any handouts or online material you may be provided in conjunction with **one** of the recommended texts. Please be aware that only a limited number of texts are provided within the library for reference and that it is recommended that you purchase a text of your own rather than relying solely on this shared resource. In addition, it is advisable that you read around the topics by accessing other textbooks, by looking at relevant research journal articles, and by accessing weblinks, particularly where the lecturer has indicated relevant sources during lectures (e.g. current news topic/research paper).

	Recommended Texts (ONE of the following): Cook, S.J. (2006) *Cellular Pathology.* :Bloxham: Scion. Pecorino, L. (2008) *Molecular Biology of Cancer.* Oxford: Oxford. **Additional texts** Young, B., Lowe, J.S., Stevens, A. & Heath J.W. (2006) *Wheater's functional histology. 5th Ed.* Stevens, A. Lowe, J. (2009) *Core Pathology*. London: Mosby. Weinberg, R.A. (2013) *The Biology of Cancer*. Abingdon: Garland. Strachan, T and Read, A (2010) Human Molecular Genetics. Garland Science

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